

CLAIMS

1. A processor array, comprising an array of processor elements, wherein each of said processor
5 elements comprises a cycle counter, and wherein at least one of said processor elements is able to transmit control command signals to each of the other processor elements,

each processor element being such that, on receipt
10 of a control command signal, it acts on that signal only when its cycle counter reaches a predetermined value, and

said one of said processor elements being such that it transmits control command signals only when its
15 cycle counter takes a value which is within a predetermined range.

2. A processor array as claimed in claim 1, comprising a first connection between each of said
20 processor elements, wherein said one of said processor elements is able to transmit start and stop control command signals on said first connection, and wherein each processor element acts on start and stop control command signals received on said first connection.

25 3. A processor array as claimed in claim 2, wherein a start control command signal comprises a first binary signal level on said first connection, and a stop control command signal comprises a second binary signal
30 level on said first connection.

4. A processor array as claimed in claim 2 or 3, comprising a second connection between each of said
processor elements, wherein each of said processor
35 elements is able to place a halt request signal on said second connection, and said one of said processor

elements detects any halt request signal placed on the second connection, and acts on a detected halt request signal by transmitting a stop control command signal on said first connection.

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5. A processor array as claimed in claim 1, comprising a third connection between each of said processor elements, wherein said one of said processor elements is able to transmit step control command signals on said third connection, and wherein each processor element acts on a step control command signal received on said third connection by performing one process step.

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15 6. A processor array as claimed in claim 1, comprising a fourth connection between each of said processor elements, wherein said one of said processor elements is able to transmit synchronization control command signals on said fourth connection, and wherein each processor element acts on a synchronization control command signal received on said fourth connection by starting its cycle counter.

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7. A processor array as claimed in claim 1, wherein each processor element comprises a programmable delay line, for applying a programmed delay to received control command signals.

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8. A processor array as claimed in claim 7, wherein each programmable delay line has a minimum programmable delay.

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9. A processor array as claimed in claim 1, wherein said processor elements include a transmit element and a receive element, and wherein:

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said transmit element comprises means for transmitting data words in association with respective code words, said code words being used in a predetermined sequence; and

5. said receive element comprises:

means for storing received data words in respective registers, the respective registers being determined on the basis of the code words associated with the data words, such that each received data word is stored in its respective register for the duration of said predetermined sequence of code words; and

10 means for retrieving data words from the respective registers.

15 10. A processor array as claimed in claim 9, wherein said means for retrieving data words from the respective registers comprises a multiplexer, connected to all of the registers, and means for selecting an output from each of the registers in turn.